

AMENDMENTS TO THE SPECIFICATION:

Please replace the paragraphs beginning on page 2, line 7 and ending on page 2, line 16, with the following amended paragraphs:

Analogously, functional groups of formula I, in which X stands for hydroxyl, can be converted with sulfoxides into aldehyde or ketone groups and sulfides, if the hydroxyl group reacts with a previously derived sulfoxide formed derivative of sulfoxide, for instance derived formed as derivative with acid chlorides (Omura et al, Tetrahedron 1978, 34, 1651; Mancuso et al, Synthesis, 1981, 165), with dicyclohexylcarbodiimide (Phitzner Pfitzner et al, J. Am. Chem. Soc., 1965, 87, 5661) or with acid anhydrides (Albright et al, J. Am. Chem. Soc., 1967, 89, 2416).

Finally, it recently has been learned that functional groups of formula I, in which R¹ stands for alkyl or aryl and X stands for hydrogen, react with sulfoxides and in the presence of polyoxomolybdates, also as in reaction (1) to form ketones and sulfides (Khenkin et al, J. Am. Chem. Soc., 2002, 124, 4198).

Please replace the paragraph beginning on page 3, line 4 and ending on page 3, line 13, with the following amended paragraph:

The starting material of this catalytic method is a compound which contains at least one ($n \geq 1$) functional group of formula I,



in which R¹ stands for hydrogen, alkyl or aryl, X stands for hydrogen or a group that can be substituted for the sulfinyl group of a sulfoxide during the catalytic reaction, and n stands for integral values between 1 and 8. This compound is oxidized in the presence of a sulfoxide and/or a sulfide in the simultaneously presence of iron salts or redox pairs such as Fe-Cu or Ag-Cu salts by means of an oxidant with a redox potential of $E_0 \geq +2$ V vs. NHE (normal hydrogen electrode), preferably by means of

a persulfate salt. By means of the presence of the sulfoxide and/or of a sulfide, it becomes possible for the first time to produce the desired carbonyl compounds with very high selectivity; the formation of alcohols, carboxylic acids, dimerization products and other secondary byproducts is reduced decisively or essentially prevented.

Please replace the paragraph beginning on page 4, line 27 and ending on page 5, line 1, with the following amended paragraph:

The method described may be performed by the gradual addition of the persulfate in the form of powder or in an aqueous solution, while stirring forcefully, to the previously placed starting material, which is dissolved in an inert organic solvent, in water, or in a mixture thereof. The sulfoxide and/or the sulfate sulfide may be present in this reaction mixture in dissolved form or in a slurry.

Please replace the paragraph beginning on page 6, line 12 and ending on page 6, line 15, with the following amended paragraph:

The yield of the dialdehyde 4,4'-oxybis(benzaldehyde) (CAS Registration No. 2215-76-1) is 87 mol%. Thus compared to the yields with previously known oxidation methods, of 30 to 40%, this yield is substantially higher, making the selectivity of the method of the invention excellent.

Please replace the paragraphs beginning on page 6, line 17 and ending on page 6, line 25, with the following amended paragraphs:

In a 100 ml reactor containing argon gas, 2.24 g of 1,1'-(1-methylethane-1,1'-diyl)-bis-(4-methylbenzene) (CAS Registration No. 1823-31-0) [10 mmol] is dissolved in 39.2 ml of acetonitrile, with the addition of 0.8 ml of dimethyl sulfoxide [11.2 mmol] at 75°C. To the solution, 60 mg of Cu(OAc)₂, 30 mg of FeSO₄•7 H₂O and 10 ml of water are added. Next, while stirring forcefully, 10.8 g of Na₂S₂O₈, dissolved in 30 ml of water, are then added drop by drop. The reaction is ended after 100 minutes. The organic phase is extracted to exhaustion with ethyl acetate. ~~The products formed are analyzed using ethyl acetate.~~

The yield of the dialdehyde 4,4'-(1-methylethane-1,1-diyl)-bis(benzaldehyde) (CAS Registration No. 46948-52-1) is 86% (area) HPLC.

Please replace the paragraph beginning on page 7, line 11 and ending on page 7, line 16, with the following amended paragraph:

In a 100 ml reactor containing argon gas, 2.44 g of 1-methoxy methoxy-4-methylbenzene (CAS Registration No. 104-93-8) [20 mmol] is dissolved in 39 ml of acetonitrile, with the addition of 1.0 ml of dimethyl sulfoxide [14.1 mmol] at 70°C. To the solution, 65 mg of Cu(OAc)₂, 30 mg of FeSO₄•7 H₂O and 10 ml of water are added. Next, while stirring forcefully, 11.0 g of Na₂S₂O₈, dissolved in 30 ml of water, are then added drop by drop. The reaction is ended after 120 minutes.

Please replace the paragraphs beginning on page 8, line 1 and ending on page 8, line 11, with the following amended paragraphs:

The yield of the dialdehyde 4,4'-oxybis(benzaldehyde) (CAS Registration No. 2215-76-1) is 84 mol%.

Example 6: Production of 4,4'-oxybis(benzaldehyde)

In a 100 ml reactor containing argon gas, 2 g of 4,4'-oxybis(toluene) (CAS Registration No. 1579-40-4) [10 mmol] is dissolved in 39.2 ml of acetonitrile, with the addition of 1.5 ml of methylphenyl sulfoxide [11.0 mmol] at 75°C. To the solution, 60 mg of Cu(OAc)₂, 30 mg of FeSO₄•7 H₂O and 10 ml g of water are added. Next, while stirring forcefully, ~~46.2~~ 10.8 g of Na₂S₂O₈, dissolved in 30 ml of water, are then added drop by drop. The reaction is ended after 45 minutes. The organic phase is extracted to exhaustion with ethyl acetate.

The yield of the dialdehyde 4,4'-oxybis(benzaldehyde) (CAS Registration No. 2215-76-1) is 84 mol%.